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09/714,191	11/17/2000	Christof Mock	199750US0	5418

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EXAMINER

ROCHE, LEANNA M

ART UNIT

PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/714,191	MOCK ET AL.	
Examiner	Art Unit	Leanna Roche	1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 November 2002.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-4, 6-25 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-4 and 7-25 is/are rejected.
- 7) Claim(s) 1,21 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3, 4</u> . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

1. Applicant's amendments filed November 20, 2002 have been entered and carefully considered. Claims 1 and 4 have been amended. Claim 5 has been cancelled. Claims 7-25 have been added. Claim 6 remains withdrawn from further consideration. Therefore, Claims 1-4 and 7-25 are pending in this application for action.

Claim Objections

2. Claim 1 is objected to because of the following informalities: in line 2 of Claim 1, the phrase "a core layer of polypropylene particle form" should read "a core layer of polypropylene particle foam". Appropriate correction is required. For the purposes of examination, the examiner has interpreted this claim as such.

3. Claim 21 is objected to because of the following informalities: in line 2 of Claim 21, the term "recylate" should be changed to "recyclate". Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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5. Claims 4 and 12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

6. Newly amended Claim 4 claims a decorative panel comprising an "unlaminated foam". While the specification at page 2, lines 1-3, provides support for a "foam film optionally laminated with a film", there is no support in the specification as originally filed for a decorative panel comprising an "unlaminated foam".

7. Newly added Claim 12 claims a fiber web comprising a "polyester, polyamide, polymeric film". While the specification at page 2, lines 1-3, provides support for a "polyester or polyamide, polymeric film", there is no support in the specification as originally filed for a decorative panel comprising a polymeric film of both polyester and polyamide.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-4 and 7-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 1 is rejected as vague and indefinite because as amended, it appears that Applicant intends to claim a sandwich panel containing (A), (B), and

(C), wherein (C) may **optionally** be either “one” layer or “more” layers.

However, as evidenced by line 7 of Claim 1 where Applicant states “when said decorative layers are present”, it appears that Applicant intends to claim a sandwich panel containing (A), (B), and optionally (C). For the purposes of examination, Claim 1 has been interpreted to read on a sandwich panel containing (A), (B), and optionally (C).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Molitor et al. (DE 19544451).

Molitor teaches a sandwich board comprised of a core layer of polypropylene particle foam and two cover layers of glass mat reinforced polypropylene. This reads on Applicant's sandwich panel comprising a core layer of polypropylene particle foam and at least 2 cover layers of fiber-reinforced polypropylene. While Molitor does not specifically disclose decorative layers, the decorative layers claimed by Applicant are optional. Therefore, this composite panel without decorative layers reads on Applicant's sandwich panel.

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Molitor does not disclose using 1 to 30% by weight recycled material, 1 to 20% by weight recyclate particles, or 2 to 10% by weight recycled particles to form the core layer. However, it is extremely well known in the art of plastic molded materials that using recycled materials reduces production costs by producing less waste and by requiring less of the expensive pure materials, while also reducing the detrimental impact on the environment from excessive amounts of non-biodegradable materials. Therefore, it would have been obvious to the skilled artisan at the time this invention was made to use recycled material within Applicant's presently claimed ranges to produce the core layer of the sandwich panel, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233. In the present case, it would have been obvious to use recycled material within Applicant's presently claimed ranges to produce the core layer of the sandwich panel, motivated by the desire to reduce waste and cost and improve the environmental impact of the production of the sandwich panels.

With regard to Claims 2 and 3, Molitor discloses using glass mat reinforced polypropylene cover layers, wherein the glass fiber content is from 20 to 60% by weight of the cover layer.

With regard to Claims 4, 12, 19, 20, 23 and 24, the decorative layers claimed by Applicant are optional. Therefore, a composite panel without decorative layers reads on Applicant's sandwich panel.

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The polypropylene homopolymer particle foam core of Molitor reads on Applicant's polypropylene homopolymer particle foam core. The crystallite melting point of the polypropylene core layer of Molitor is within Applicant's presently claimed range. The particles of the particle foam of Molitor are from 2 to 8 mm, preferably from 3 to 6 mm. This reads on Applicant's various ranges of foam core particle length. The density of the foam core of Molitor is from 20 to 100 g/l which is within Applicant's presently claimed range. The polypropylene of the cover layers of Molitor reads on the polypropylene homopolymer of Applicant's claims. The core layer of Molitor may be from 5 to 100 mm thick. This reads on Applicant's core from 3 to 20 mm thick. The cover layers of Molitor may be from 1 to 10 mm thick. This reads on Applicant's cover layers from 0.5 to 2 mm thick.

13. Claims 1-4, 7, 8, 11-14, 19-20 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erhardt (USPN 5876534).

Erhardt is directed to a composite panel for making molded parts for motor vehicles. The composite panel is comprised of a foamed thermoplastic core with fiberglass mat-reinforced outer layers. The thermoplastic core is comprised of foamed polypropylene and the fiberglass mats are impregnated with polypropylene. This reads on Applicant's core layer of polypropylene particle foam and cover layers of fiber-reinforced polypropylene. While Erhardt does not specifically disclose decorative layers, the decorative layers claimed by Applicant

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are optional. Therefore, a composite panel without decorative layers reads on Applicant's sandwich panel.

Erhardt does not specifically disclose using 1 to 30% by weight recycled material, 1 to 20% by weight recyclate particles, or 2 to 10% by weight recycled particles to form the core layer. However, it is extremely well known in the art of plastic molded materials that using recycled materials reduces production costs by producing less waste and by requiring less of the expensive pure materials, while also reducing the detrimental impact on the environment from excessive amounts of non-biodegradable materials. As a specific example, Murakami teaches that recycling materials from vehicle parts is becoming more and more necessary for environmental reasons. Murakami discloses that it is known in the art to use recycled material from molded vehicle parts to form new molded vehicle parts. Murakami also specifically cites JP-A-5-154861 and JP-A-5-169479, which disclose using at least 76 parts by weight new materials which results in up to 24 parts by weight recycled materials (Column 1, lines 49-62). Murakami also discloses that JP-A-57-11052, JP-A-61-259943, JP-A-62-28332, JP-A-63-237924, and JP-A-6-71829 all show that it is known in the art of sandwich panels to use recycled material for the core of a sandwich molding while using new material for the outer layers to improve impact resistance (Column 2, lines 9-15). Therefore, it would have been obvious to the skilled artisan at the time this invention was made to use recycled material within Applicant's presently claimed ranges to produce the core layer of the sandwich panel, since it has been held that where the general conditions of a claim are

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disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233. In the present case, it would have been obvious to use recycled material within Applicant's presently claimed ranges to produce the core layer of the sandwich panel, motivated by the desire to reduce waste and cost and improve the environmental impact of the production of the sandwich panels, while still producing sandwich panel which exhibits impact resistance.

With regard to Claims 4, 12, 19, 20, 23 and 24, the decorative layers claimed by Applicant are optional. Therefore, a composite panel without decorative layers reads on Applicant's sandwich panel.

With regard to Claim 7, the polypropylene particle foam of Erhardt reads on Applicant's particle foam consisting of a polypropylene homopolymer. With regard to Claim 8, the crystalline melting point of polypropylene is inherently between 120° and 170°C. With regard to Claim 11, the polypropylene of the outer layers of Erhardt reads on Applicant's polypropylene cover layers consisting of a polypropylene homopolymer.

With regard to Claim 25, Erhardt is directed to the production of molded composite panels for motor vehicles. The reads on Applicant's motor vehicle part. Because Applicant's trunk floor, parcel shelf and side door trim do not require any specific structural limitations, the molded composite panels of Erhardt read on Applicant's various motor vehicle parts.

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14. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erhardt (USPN 5876534) as applied to claim 1 above, and further in view of Seiler et al. (USPN 5122398).

Erhardt teaches the claimed sandwich panel, but does not specifically disclose the weight percent value of the fiberglass mats in the outer layers of the composite panel. It would have been obvious to the skilled artisan at the time this invention was made to use 10 to 60% by weight glass fibers or 20 to 50% by weight glass mats in the outer layer of the composite panel of Erhardt, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233. Additionally, Seiler teaches a recyclable automobile bumper system having an outer layer of glass fiber reinforced propylene polymer containing a glass fiber content of at least 30% by weight, and preferably 40 to 70% by weight (Column 2, lines 14-19) which results in molded parts that are highly recyclable while also possessing good mechanical properties. Therefore, it would have been obvious to the skilled artisan at the time this invention was made to use 10 to 60% by weight glass fibers or 20 to 50% by weight glass mats in the outer layer of the composite panel, since it is known in the art of automobile bumper systems to use a glass fiber content of at least 30% by weight, and preferably 40 to 70% by weight to produce highly recyclable parts with good mechanical properties.

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15. Claims 9, 10, 15-18, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erhardt (USPN 5876534) as applied to claim 1 above, and further in view of Haardt et al. (USPN 5180628).

Erhardt teaches the claimed sandwich panel, but does not specifically disclose the particle size of the polypropylene particle foam. It would have been obvious to the skilled artisan at the time this invention was made to use particles of 2 to 8 mm, 5 to 10 mm, or 6 to 8 mm, in the core layer of the composite panel of Erhardt, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233. Additionally, Haardt teaches shock-absorbing composite automobile moldings having a core foam layer comprised of polypropylene particles having a particle size of about 2 to 8 mm. The particle foam core layer of Haardt results in a core layer which exhibits favorable shock-absorbing properties (Column 2, lines 1-22). Therefore, it would have been obvious to the skilled artisan at the time this invention was made to use particles of 2 to 8 mm, 5 to 10 mm, or 6 to 8 mm, in the core layer of the composite panel of Erhardt, since it is known in the art of molded automobile parts to use particles of 2 to 8 mm in particle foam core layer of a composite molding to produce a composite molding with favorable shock-absorbing properties.

Erhardt teaches the claimed sandwich panel, but does not specifically disclose density of their polypropylene particle foam core layer. It would have been obvious to the skilled artisan at the time this invention was made to use a

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core layer with a density from 10 to 100 g/l in the composite panel of Erhardt, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233. Additionally, Haardt teaches shock-absorbing composite automobile moldings having a core foam layer comprised of polypropylene particles having a density of 15 to 100 g/l. The particle foam core layer of Haardt results in a core layer which exhibits favorable shock-absorbing properties (Column 2, lines 1-22). Therefore, it would have been obvious to the skilled artisan at the time this invention was made to use a core layer with a density from 10 to 100 g/l in the composite panel of Erhardt, since it is known in the art of molded automobile parts to use a core layer with a density from 10 to 100 g/l in a composite molding to produce a composite molding with favorable shock-absorbing properties.

Erhardt teaches the claimed sandwich panel, but does not specifically disclose the specific thickness of the core layer or outer layers of their composite panel. It would have been obvious to the skilled artisan at the time this invention was made to use a core layer with a thickness from 3 to 20 mm and outer layers with a thickness from 0.5 to 2 mm in the composite panel of Erhardt, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233. Haardt teaches shock-absorbing composite automobile moldings having a core foam layer comprised of polypropylene particles having a thickness of 3 to 200 mm, and outer layers comprised of

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polypropylene having a thickness from 0.5 to 10 mm. The shock-absorbing composite automobile moldings of Haardt are recyclable, durable, and shock-absorbing with good mechanical properties and high surface quality (Column 1, lines 22-56). Therefore, it would have been obvious to the skilled artisan at the time this invention was made to use a core foam layer having a thickness of 3 to 200 mm and outer layers having a thickness from 0.5 to 10 mm in the composite panel of Erhardt, since it is known in the art of molded automobile parts to use a core foam layer having a thickness of 3 to 200 mm and outer layers having a thickness from 0.5 to 10 mm in a composite molding to produce a composite molding which is recyclable, durable, and shock-absorbing with good mechanical properties and high surface quality.

Response to Arguments

16. Applicant's arguments are sufficient to overcome the objection to Claim 1 set forth in Paper No. 2, paragraph 9.

17. Applicant's amendments to Claims 1 and 4 resulted in new 35 USC 112, second paragraph and 35 USC 112, first paragraph rejections as discussed above in paragraphs 4-6 and 8-10.

18. As no claims have been found allowable, Claim 6 remains withdrawn from consideration. The examiner notes that, at present, Claim 6 is an improper multiple dependent claim.

19. Applicant contends that Erhardt and Murakami do not teach that a core layer of polypropylene particulate foam should contain 1 to 30% by weight of

recyclate particles of core layer, cover layer and optionally decorative layer components.

20. With regard to Erhardt, this reference was not relied upon to specifically disclose the use of recycled material. As discussed above, it is extremely well known in the art of plastic molded articles that using recycled materials cuts down on material costs, reduces waste, and reduces loss of material. As for the particular amount of recycled material to be used in a sandwich panel, determining the optimum value for this feature is completely within the level of ordinary skill in the art, absent any showing that this particular feature results in an unexpected result.

21. With regard to Murakami, the background of this reference was relied on simply to provide an example of the use of recycled particles within Applicant's range for forming the core of a sandwich panel. Although the invention of Murakami may "teach away from using relatively small amounts of recycled materials", the overall disclosure of Murakami shows that it is known in the art to use recycled materials within Applicant's range (up to 24 parts by weight), and Murakami also cites reasoning for using recycled materials with Applicant's range (using more materials which are not recycled helps improve the overall impact resistance of the panel). Obviousness may exist although teachings relied upon may be disclosed in art as non-preferred or unsatisfactory for intended purposes.

In re Hans Theodor Boe teaches "All of the disclosures in a reference must be evaluated for what they fairly teach one of ordinary skill in the art. Thus, in *In re Smith*, 32 CCPA 959, 148 F.2d 351, 65 USPQ 167; in *In re Nehrenberg*, 47

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CCPA 1159, 2S0 F.2d 161, 126 USPQ 383; and in *In re Watanabe*, 50 CCPA 1175, 315 F.2d 924, 137 USPQ 350, this court affirmed rejections based on art which we concluded rendered the claimed invention obvious to those of ordinary skill in the art despite the fact that the art teachings relied upon in all three case were phrased in terms of a non-preferred embodiment or as being unsatisfactory for the intended purpose".

22. With regard to Seiler, Applicant contends that "Seiler et al does not teach that these or any other recyclates should be used in amounts such as claimed or that the core of a sandwich panel should contain at least recycled shell materials." This argument is not found persuasive because Seiler was not relied on to show the use of recycled materials.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Haardt (USPN 5164257) teaches a polypropylene particle foam which reads on Applicant's claimed core layer. Schulze-Kadelbach (USPN 5514458) teaches recyclable molded automotive panels. Moeck (USPN 5954403) teaches an outer layer that reads on Applicant's core layer and an inner core layer that reads on one of Applicant's fiber reinforced cover layers.

24. Applicant's amendments and Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on August 23, 2002 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

25. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leanna Roche whose telephone number is 703-308-6549. The examiner can normally be reached on Monday through Friday from 8:30 am to 6:00 pm (with alternate Mondays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



lmr

February 11, 2003



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